

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Tidewater Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Permittee Name:	Virginia Electric and Power Company
Facility Name:	Dominion – Elizabeth River CT Station
Facility Location:	Chesapeake, Virginia
Permit Number:	TRO-61108

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Dominion – Elizabeth River CT Station has applied for a Title V Operating Permit for its Chesapeake facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:	_____	Date:	<u>November 14, 2007</u>
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Air Permit Manager:	_____	Date:	<u>November 14, 2007</u>
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Regional Director:	_____	Date:	<u>November 14, 2007</u>
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I. FACILITY INFORMATION

Permittee Information

Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, VA 23060

Responsible Official

Mr. O. Preston Sloane
Station Director

Acid Rain Designated Representative and NO_x Budget Trading Authorized Account Representative

Mr. C. D. Holley
Vice-President – Fossil & Hydro
USEPA ATS-AAR ID number: 2099

Facility ID

Dominion – Elizabeth River CT Station
2837 South Military Hwy,
Chesapeake, VA 23323-0286

Facility Contact person

D. Scott Morelen
(757) 719-1134

County-Plant Identification Number: 51-550-00161

ORIS Code: 52087

NATS Facility Identification Number: 05208700CTZ1-CTZ3

Facility Description: SIC Code: 4911, **NAICS Code:** 221112

This facility is an electric generation facility using three simple cycle gas combustion turbines, and associated support equipment. The turbines are low mass emissions (LME) units as defined in 40 CFR 75.2 (actual emissions below 50 tons NO_x per control period, and 100 tons NO_x per year). As specified in 40 CFR 75.19, the turbines use optional NO_x emission estimation procedures in lieu of continuous NO_x emissions monitoring systems to determine NO_x emissions. The facility became subject to the Acid Rain program when it was purchased by Virginia Electric and Power Company on November 30, 2004. Dominion Generation is the operator of this facility.

The facility is a Title V major source of NO_x, SO₂, CO and H₂SO₄. This source is located in an attainment area for all pollutants, and is a PSD major source. The facility was previously permitted under a PSD Permit issued on 3/1/1991, and amended on 6/13/2007.

II. COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

III. EMISSIONS INVENTORY

A copy of the 2006 CEDS Pollutant Emissions Report is attached. Emissions are summarized in the following table.

2006 Actual Emissions in Tons/Year

Pollutant	NO _x	SO ₂	CO	PM ₁₀	VOC
Total	38.4	7.7	8.8	0.9	0.7

IV. EMISSION UNIT APPLICABLE REQUIREMENTS

A. Limitations

The following Virginia Administrative Codes with specific requirements have been determined to be applicable:

- 9 VAC 5 Chapter 50 New and Modified Stationary Sources, Part 1, Special Provisions
- 9 VAC 5 Chapter 50 Article 4: Standards of Performance for Stationary Sources
- 9 VAC 5 Chapter 50 Article 5: EPA Standards of Performance for New Stationary Sources
- 9 VAC 5 Chapter 80 Permits for Stationary Sources
 - Article 1 - Federal Operating Permits
 - Article 2 - Permit Program Fees
 - Article 3 - Acid Rain
 - Article 4 - Insignificant Activities
 - Article 6 - Permits for New and Modified Sources
 - Article 8 - Prevention of Significant Deterioration
- 9 VAC 5 Chapter 140 Part 1 - NO_x Budget Trading Program
- 9 VAC 5 Chapter 140 Part 2 - NO_x Annual Trading Program
- 9 VAC 5 Chapter 140 Part 3 - NO_x Ozone Season Trading Program
- 9 VAC 5 Chapter 140 Part 4 - SO₂ Annual Trading Program

The following federal regulation has been determined to be applicable:

40 CFR Part 60 Subpart GG - National Emission Standards for Stationary Gas Turbines.

Acid Rain -

9 VAC 5 Chapter 80 - Article 3 - Acid Rain the following condition is included in the permit:

In accordance with the Air Pollution Control Law of Virginia §10.1-1308 and §10.1-1322, the Environmental Protection Agency (EPA) Final Full Approval of the Operating Permits Program (Titles IV and V) published in the Federal Register December 4, 2001, Volume 66, Number 233, Rules and Regulations, Pages 62961-62967 and effective November 30, 2001, and Title 40, the Code of Federal Regulations §§72.1 through 76.16, the Commonwealth of Virginia Department of Environmental Quality issues this permit pursuant to 9 VAC 5 Chapter 80, Article 3 of the Virginia Regulations for the Control and Abatement of Air Pollution (Federal Operating Permit Article 3).
(9 VAC 5-80-490 B.2)

CAIR -

9 VAC 5 Chapter 140 - Parts 2-4: From EPA's Question and Answer memo:

Question 1. - The CAIR regulations refer to the CAIR permit as a "complete and separable portion of the Title V operating permit." What does this mean?

It means that the CAIR portion of the Title V permit must be a discrete "chapter" in the overall Title V permit See 40 CFR 96.120(b), 97.120(b), 96.220(b), 97.220(b), 96.320(b), and 97.320(b). To facilitate this requirement, EPA recommends that the permitting authority simply append the CAIR permit application (which references the CAIR standard requirements) to the Title V permit and include language stating that the provisions contained in the CAIR permit application are applicable requirements that are a binding and enforceable portion of the Title V permit.

As with permitting under the Acid Rain and NO_x Budget Trading Programs, the CAIR permit is a portion of the Title V permit. As a consequence, the incorporation of CAIR requirements into the Title V permit should not modify any non-CAIR requirements already contained in the Title V permit.

Based on the above information, Section IX has been added to the Title V permit and the CAIR application has been added an Appendix to the Title V permit.

B. Monitoring

This facility is subject to 40 CFR Part 60, Subpart GG. The monitoring that is required to meet this subpart is sufficient to show compliance with the emission limits in the permit. The monitoring requirements include:

- the load rate of each turbine;
- the water to fuel ratio of the water injection system;
- the number of hours operated;
- the nitrogen and sulfur content of the fuel; and
- the opacity.

Stack testing is also used as a monitoring tool. Stack test results from the February/March 2007 stack testing show the facility to be in compliance at loads above 85%:

	Unit 1	Unit 2	Allowable Limit
Natural Gas Fired			
NOx	22.29	24.21	25 ppm
CO	23.82	4.29	30 ppm
VOC	0.6	0.76	4 ppm
Oil Fired			
NOx	48.34	46.84	50.2 ppm
CO	3.76	2.05	30 ppm
VOC	0.82	0.89	4 ppm

According to these stack test results the facility is operating within their permit limits.

C. Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records are listed in Condition 18 of the permit.

D. Testing

The permit requires the facility to stack test two of the three gas turbines for NOx, CO, VOC and opacity each five year Title V permit term. It also specifies that each turbine shall be tested at least once every other testing cycle. Each stack test must be performed with at least two load ratings - 85% and 100% -for each individual fuel. See Condition 19 of the permit.

E. Reporting

Reports include the Semi-Annual Continuous Monitoring reports, Annual emission statements, and Stack Test reports.

V. Streamlined Requirements

Condition 18 of the PSD permit dated 6/13/2007, has been streamlined out of the Title V because it is already complete.

VI. GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

A. Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia*, and the “Department of Environmental Quality Agency Policy Statement No. 2-2003”.

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general Condition F.

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

VII. INAPPLICABLE REQUIREMENTS

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 3 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

VIII. PUBLIC PARTICIPATION

The proposed permit was placed on public notice in the Virginian-Pilot from September 28, 2007 to October 29, 2007 with a concurrent review by EPA ending on November 13, 2007.